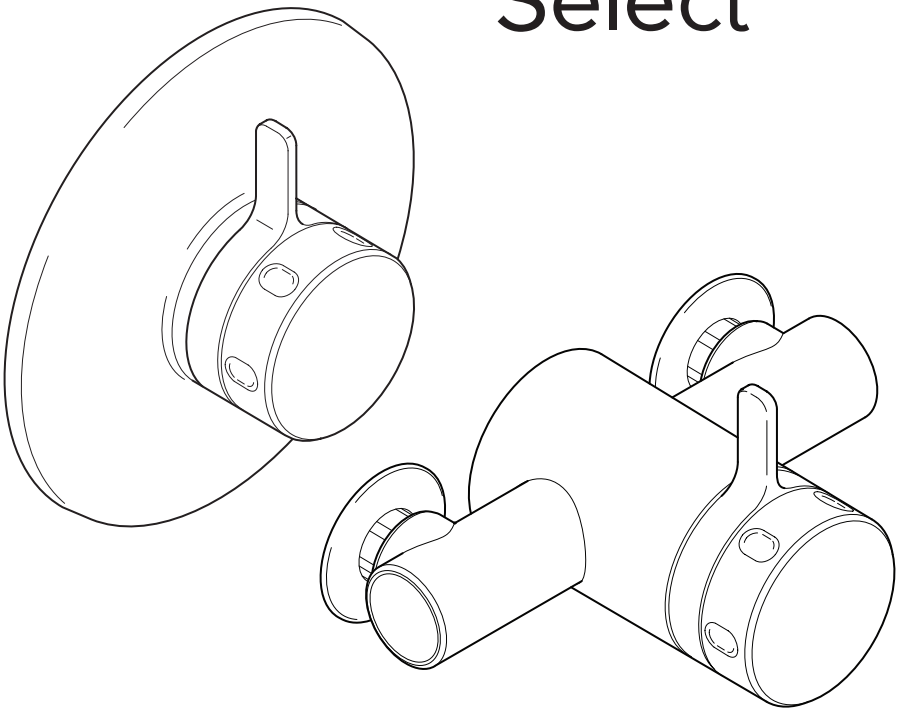
mira

Select



MIRA SELECT

THERMOSTATIC MIXER

INSTALLATION & USER GUIDE

These instructions must be left with the user.

PlumbNation

the nation's favourite for

PLUMBING & HEATING SUPPLIES

- ✔ **FREE SHIPPING** on all orders over £100 to mainland UK
- ✔ **SECURE PAYMENTS** shop online with confidence
- ✔ **FINANCE AVAILABLE** spread the cost with low interest rates
- ✔ **PRICE MATCH** always get the best deals available

we have

HUGE REDUCTIONS

ON THOUSANDS OF ITEMS

- Boilers
- Radiators
- Heating controls
- Pipes & fittings
- Cylinders
- Fires
- Renewable energy
- Bathroom suites
- Kitchen sinks & taps
- Showers
- Wet rooms
- Towel warmers
- Bathroom furniture
- & much more

visit our website

plumbnation.co.uk

CALL US ON **0844 800 3460**

CONTENTS

Introduction	**2**
Patents and Design Registration	2
Pack Contents	**3**
Safety Warnings	**4**
Specifications	**4**
Installation	**6**
Suitable Plumbing Systems	6
General	6
Installation Methods	7
Exposed Thermostatic Mixer	8
Built-in Thermostatic Mixer	11
RAC Assembly	17
Control Assembly (Built-in Model)	21
Reversed Inlet Supplies	22
Commissioning	**24**
Maximum Temperature Setting	24
Operation	**24**
User Maintenance	**25**
Fault Diagnosis	25
Lubricants	25
Cleaning	25
In-service Tests	25
Inlet Filters	26
Type 2 Valves	**27**
Spare Parts	**28**
Exposed Thermostatic Mixer	28
Built-in Thermostatic Mixer	29
Notes	**30**
Customer Service	**Back Page**

If you experience any difficulty with the installation or operation of your new thermostatic mixer, please refer to **'Fault Diagnosis'**, before contacting Kohler Mira Ltd. Our contact details can be found on the back cover of this guide.

INTRODUCTION

Thank you for purchasing a quality Mira product. To enjoy the full potential of your new product, please take time to read this guide thoroughly. Having done so, keep it handy for future reference.

The Mira Select thermostatic mixer is a shower control with separate flow and temperature controls.

The thermostatic mixer incorporates a wax capsule temperature sensing unit which provides an almost immediate response to changes of temperature of the incoming water supplies to maintain the selected showering temperature. An adjustable temperature stop is provided which limits the maximum temperature to a safe level. Inlet filters are fitted to protect the thermostatic cartridge.

Mira Select Exposed: Thermostatic mixer for connection to rising, falling or rear entry pipework.

Mira Select Built-in: Thermostatic mixer for connection to concealed pipework. Includes a right angle connector (RAC) for connecting concealed pipework to exposed shower fittings.

This product has been certified as a Type 2 valve under the BUILDCERT TMV2 scheme. This product also complies with the water supply (water fittings) regulations 1999.

Optimum performance of the Mira Select is achieved when used together with Mira Select or Mira Energise Shower Fittings.

Patents and Design Registration

Patents:

GB: 2 291 693, 2 392 225, 2 421 297
Euro: 1 672 257 DE, FR, GB, IT, NL, SE
USA: 7 240 850

Patent Applications:

GB: 2 435 077
Euro: 03254070.0
USA: US-2007-0221740-A1

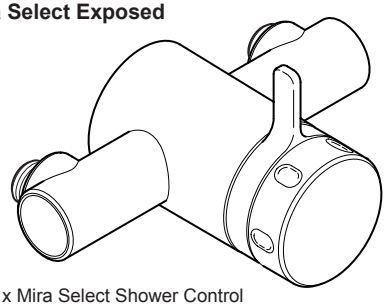
Design Registration:

000578463-0004 - 0006

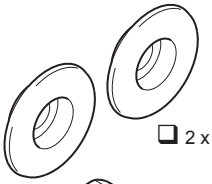
PACK CONTENTS

Tick the appropriate boxes to familiarise yourself with the part names and to confirm that all of the parts are included.

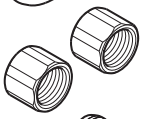
Mira Select Exposed



❑ 1 x Mira Select Shower Control



❑ 2 x Concealing Plates

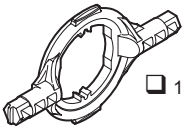


❑ 2 x Compression Nuts

❑ 2 x Olives

❑ 1 x 12 L/Min Flow Regulator

❑ 1 x 2.5 mm Hexagon Key



❑ 1 x 'O' Key

❑ 2 x No 8 x 1 ¼" Screws

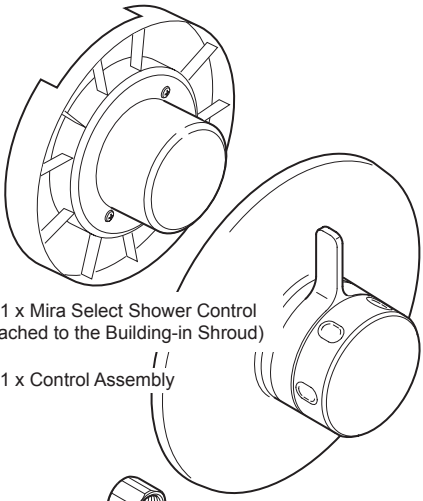
❑ 2 x Wall Plugs

Documentation

❑ 1 x Guarantee Registration Document

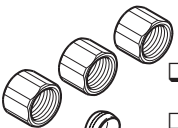
❑ 1 x Installation Template

Mira Select Built-In



❑ 1 x Mira Select Shower Control (attached to the Building-in Shroud)

❑ 1 x Control Assembly

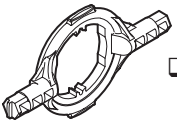


❑ 3 x Compression Nuts

❑ 3 x Olives

❑ 1 x 12 L/Min Flow Regulator

❑ 1 x 2.5 mm Hexagon Key

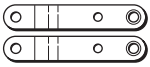


❑ 1 x 'O' Key

❑ 2 x Wall Plugs

❑ 2 x No 8 x 1 ¼" Screws

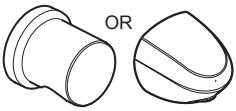
❑ 2 x M5 x 40 mm Screws



❑ 2 x Securing Brackets

❑ 2 x Bracket Screws

OR



❑ 1 x RAC Assembly

SAFETY WARNINGS

Mira thermostatic mixers are precision engineered and should give continued safe and controlled performance, provided:

1. They are installed, commissioned, operated and maintained in accordance with the manufacturer's recommendations.
2. Periodic attention is given, when necessary, to maintain the product in good functional order.

Caution!

1. Read all of these instructions.
2. Retain this guide for later use.
3. Pass on this guide in the event of change of ownership of the installation site.
4. Follow all warnings, cautions and instructions contained in this guide.
5. Anyone who may have difficulty understanding or operating the controls of any shower should be attended whilst showering. Particular consideration should be given to the young, the elderly, the infirm or anyone inexperienced in the correct operation of the controls.
6. Rapid/Excessive movement of the flow and/or temperature control levers may result in momentary unstable blend temperatures.
7. Care is required when adjusting flow or temperature, make sure that the temperature has stabilised.
8. When this product has reached the end of its serviceable life, it should be disposed of in a safe manner, in accordance with current local authority recycling, or waste disposal policy.

SPECIFICATIONS

For Type 2 Valves, the supply conditions specified in section: **'Type 2 Valves - Application'** take precedence over the operating parameters which follow.

Pressures

- Max Static Pressure: **10 Bar**.
- Max Maintained Pressure: **5 Bar**.
- Min Maintained Pressure (Gravity System): **0.1 Bar**. (0.1 bar = 1 Metre head from cold tank base to showerhead outlet).

  Note! For gravity fed or other low pressure systems (0.5 bar or below) do not fit the outlet flow regulator.
- For optimum performance supplies should be nominally equal.

Temperatures

- Factory Pre-set (Blend) Shower: **41°C**.
- Optimum Thermostatic Control Range: **35°C to 43°C** (achieved with supplies of 15°C cold, 65°C hot and nominally equal pressures).
- Recommended Hot Supply: **60°C to 65°C Note!** The mixing valve can operate at higher temperatures for short periods without damage, however this could detrimentally affect thermostatic performance. For safety and performance reasons it is recommended that the maximum hot water temperature is limited to 65°C.
- Cold Water Range: up to **25°C**.
- Minimum Recommended Differential between Hot Supply and Outlet Temperature: **12°C**.

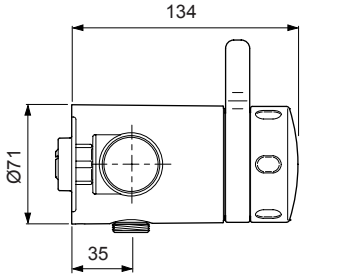
Thermostatic Shut-down

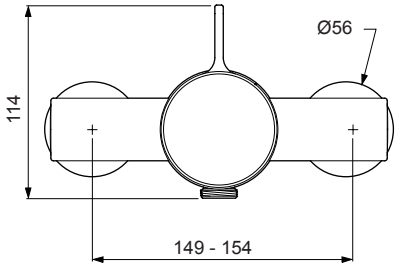
- For safety and comfort the thermostat will shut off the mixing valve **within 2 Seconds** if either supply fails (achieved only if the blend temperature has a minimum differential of 12°C from either supply temperature).

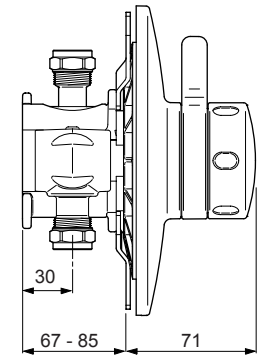
Connections

- Inlets: 15 mm Compression.
- Outlet: ½" BSP Flat Face / 15 mm Compression
- Standard connections are: **hot - left, cold - right, outlet - bottom (Exposed models), top (Built-in models)**.

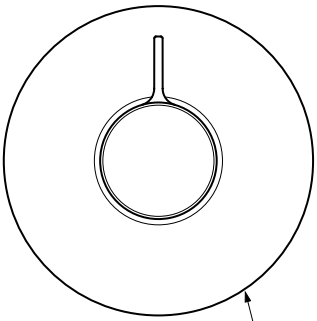
Dimensions







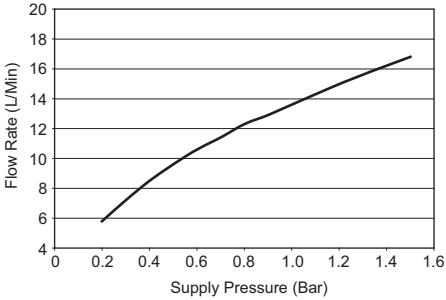
Building-in Depth



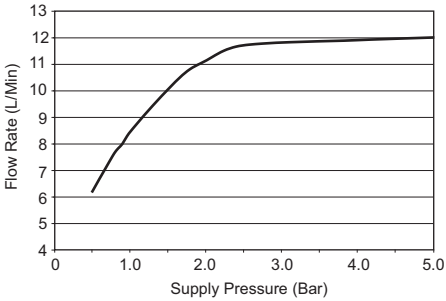
All dimensions in mm

Flow Rates

Typical Flow Rates on Low Pressure Systems (0.1 bar to 1 bar) - Mira Select with Mira Fittings:



Typical Flow Rates on High Pressure Systems (1 bar to 5 bar, with 12 L/Min Flow Regulator fitted in shower control outlet) - Mira Select with Mira Fittings:



INSTALLATION

Suitable Plumbing Systems

Gravity Fed:

The thermostatic mixer must be fed from a cold water cistern (usually fitted in the loft space) and a hot water cylinder (usually fitted in the airing cupboard) providing nominally equal pressures.

Mains Pressurised Instantaneous Hot Water System (Combination Boiler):

The thermostatic mixer can be installed with systems of this type with balanced pressures. (Recommended Minimum Maintained Pressure: **1.0 Bar**).

Unvented Mains Pressure System:

The thermostatic mixer can be installed with an unvented, stored hot water system.

Pumped System:

The thermostatic mixer can be installed with an inlet pump (twin impeller). The pump must be installed in a suitable location and in accordance with its instructions.

General

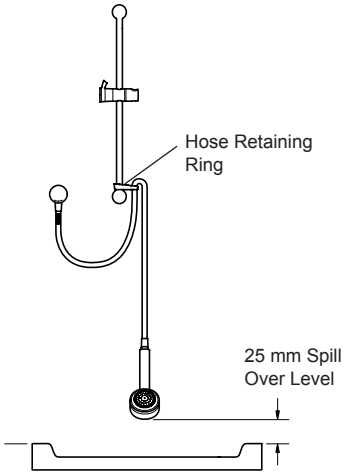
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

The installation must comply with the "Water Supply Regulations 1999 (Water Fittings)" or any particular regulations and practices, specified by the local water company or water undertakers.

Note! Make sure that all site requirements correspond to the information given in section: **'Specifications'**. For Type 2 Valves see also supply conditions in section: **'Type 2 Valves'**.

1. The mixer must not be installed in an area where it may freeze.
2. For stud partitions alternative fixings may be required.
3. Isolating valves **must** be installed close to the Mixer for ease of maintenance.
4. Pipework must be rigidly supported and avoid any strain on the connections.
5. Pipework dead-legs should be kept to a minimum.
6. Decide on a suitable position for the mixer. The position of the mixer and the shower fittings must provide a minimum gap of 25 mm between the spill-over level of the shower tray/ bath and the showerhead (refer to illustration). This is to prevent back-siphonage. For further information on the installation of your **Shower Fittings**, refer to the shower fittings installation and user guide.

   Note! Only use shower fittings recommended by the manufacturer or supplier.

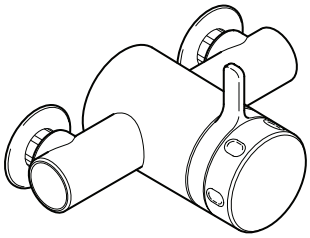


Installation Methods

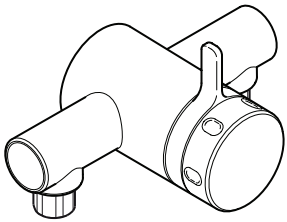
The **Exposed Select Thermostatic Mixer** can be installed with rear, rising or falling supply inlets.

Note! The thermostatic mixer has adjustable inlets to fit existing pipework centres between 149 mm and 154 mm.

For rear entry supplies, refer to section: **'Exposed Thermostatic Mixer, 1. Rear Entry Supplies'**.



For rising or falling supplies, refer to section: **'Exposed Thermostatic Mixer, 2. Rising or Falling Supplies'**.

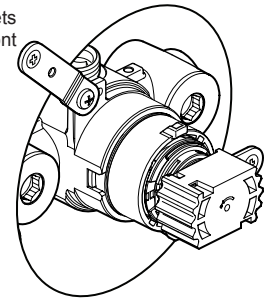


The **Built-in Select Thermostatic Mixer** can be installed with rising or falling supply inlets (rising inlets are illustrated).

The thermostatic mixer can be installed using the rear fixing points, or by using the securing brackets (supplied) on the front surface of a solid wall or stud partition, or on the rear surface of a laminated panel.

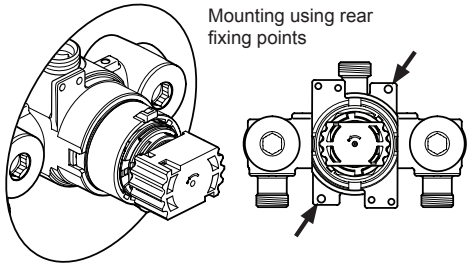
For installation into a solid wall or stud partition using the securing brackets, refer to section: **'Built-in Thermostatic Mixer, 1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting on Front Face of Wall)'**.

Securing Brackets (mounting on front surface of wall)



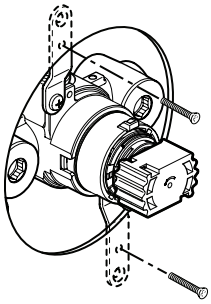
For installation into a solid wall or stud partition using the rear fixing points, refer to section: **'Built-in Thermostatic Mixer, 2. Solid Wall or Stud Partition (Using Rear Fixing Points on Thermostatic Mixer)'**.

Mounting using rear fixing points



For installation behind a laminated panel using the securing brackets, refer to section: **'Built-in Thermostatic Mixer, 3. Laminated Panel (Using Securing Brackets - Mounting on Rear Face of Wall)'**.

Securing Brackets (mounting on rear surface of wall)

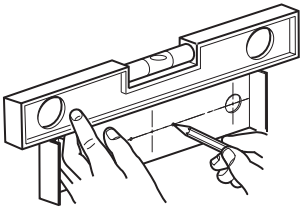


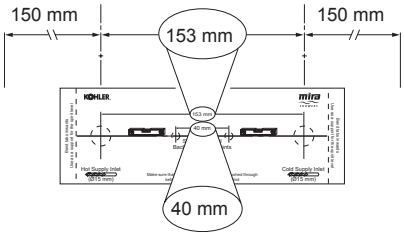
Exposed Thermostatic Mixer

1. Rear Entry Supplies (rising or falling concealed pipework)

1. Use the installation template to mark the positions of the holes for the backplate and the pipe centres.

Note! Allow a minimum of 150 mm either side of the mixing valve, to allow access to the hot and cold inlet filters for servicing.





2. For solid walls drill the holes for the backplate with a Ø6 mm drill and insert the wall plugs (supplied). For other types of wall structure alternative fixings may be required (not supplied).

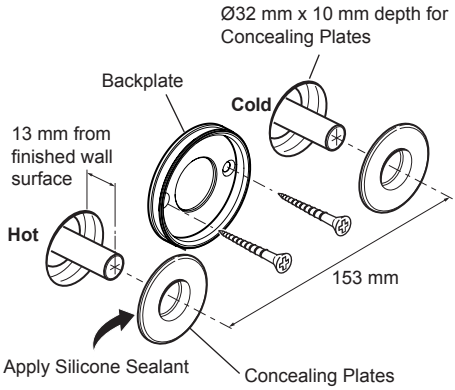
3. Drill the holes for the supply pipes at 153 mm centres.

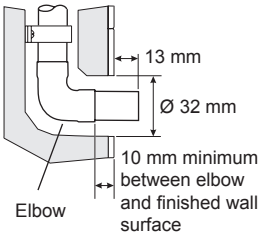
4. Create a recess in the wall to allow for the concealing plates, Ø32 mm x 10 mm deep.

Note! Depth must be sufficient to prevent the concealing plates fouling on the plumbing elbows.

5. Fit the supply pipework (**Hot - Left, Cold - Right**). The pipework must project 13 mm from the finished wall surface at 153 mm centres (use the Installation Template as a guide).

Note! If the connections are reversed, complete the installation then refer to section: **'Reversed Inlet Supplies'**.





6. Loosen the grubscrew with the 2.5 mm hexagon key (supplied) and remove the backplate from the mixing valve.

7. Secure the backplate to the wall using the screws (supplied).

8. Fit the concealing plates.

Note! Apply silicone sealant to the back face of the flange.

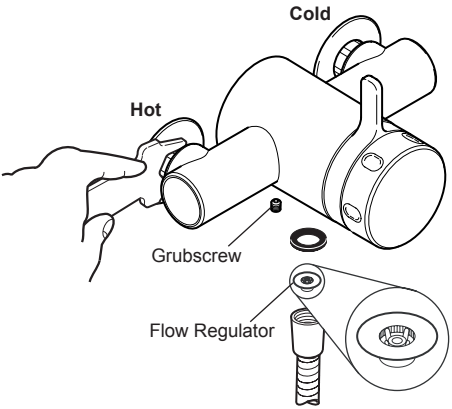
Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixing valve. Failure to do so may result in product malfunction.

9. Fit the compression nuts and olives onto the pipework.

10. Align the mixing valve with the pipework and fit onto the backplate. Minor misalignment of the pipework can be accommodated by the inlets, which are adjustable between 149 and 154 mm centres.

11. Tighten the compression nuts onto the elbows with a suitable spanner.

Caution! Take care not to damage the chrome surfaces.



12. Tighten the grubscrew to secure the mixing valve to the backplate.

13. Fit the shower fittings, refer to your shower fittings installation and user guide for instructions.

Note! For high pressure systems, a 12 L/Min flow regulator (supplied) can be fitted under the hose washer (refer to illustration).

Important! The fitting of this flow regulator will invalidate any TMV2 compliance due to the minimum flow rate requirements, **do not** fit the flow regulator in these applications.

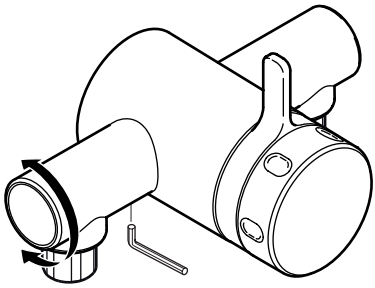
14. Turn on the hot and cold water supplies and check for leaks.

15. Before using the shower, refer to section: **'Commissioning'**.

2. Rising or Falling Supplies

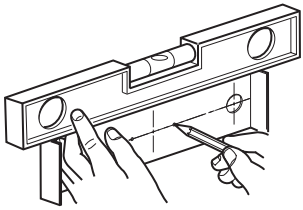
1. Loosen the grubscrew on each elbow using the 2.5 mm hexagon key (supplied) and rotate the elbow 90° as required. Retighten the grubscrews.

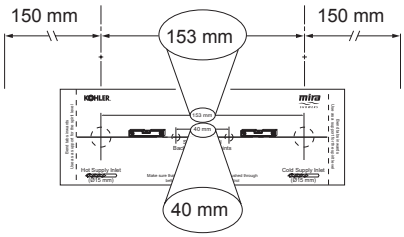
Note! Do not overtighten.



2. Use the installation template to mark the positions of the fixing holes for the backplate.

Note! Allow a minimum of 150 mm either side of the mixing valve to allow servicing of the hot and cold inlet filters.

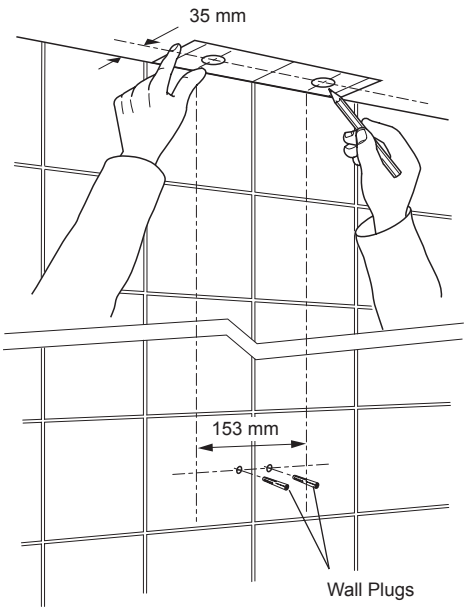




3. For solid walls, drill the holes for the backplate with a Ø6 mm drill and insert the wall plugs (supplied). For other types of wall structure, alternative fixings may be required (not supplied).

4. Using the installation template as a guide, set the pipe centres 35 mm from the finished wall and mark the pipe positions.
5. Fit the supply pipework (**Hot - Left, Cold - Right**).

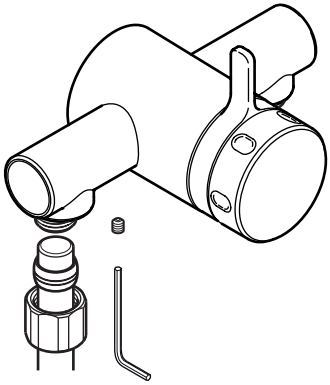
   Note! If the connections are reversed, complete the installation then refer to section: **'Reversed Inlet Supplies'**.



6. Loosen the grubscrew with the 2.5 mm hexagon key (supplied) and remove the backplate from the mixer.
7. Secure the backplate to the wall using the screws (supplied).

   Caution! It is essential at this point that the supply pipework is thoroughly flushed through before connection to the mixing valve. Failure to do so may result in product malfunction.
8. Fit the compression nuts and olives onto the pipework.
9. Align the mixing valve with the pipework and fit onto the backplate. Minor misalignment of the pipework can be accommodated by the inlets, which are adjustable between 149 and 154 mm centres.
10. Tighten the compression nuts onto the mixer with a suitable spanner.

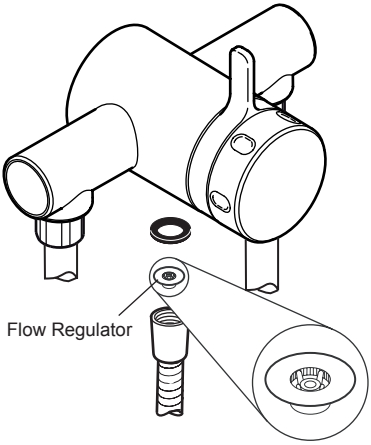
    Caution! Take care not to damage the chrome surfaces.
11. Tighten the grubscrew to secure the mixing valve to the backplate.



12. Fit the shower fittings, refer to your shower fittings installation and user guide.

    Note! For high pressure systems, a 12 L/Min flow regulator (supplied) can be fitted under the hose washer (refer to illustration).

    Important! The fitting of this flow regulator will invalidate any TMV2 compliance due to the minimum flow rate requirements, **do not** fit the flow regulator in these applications.

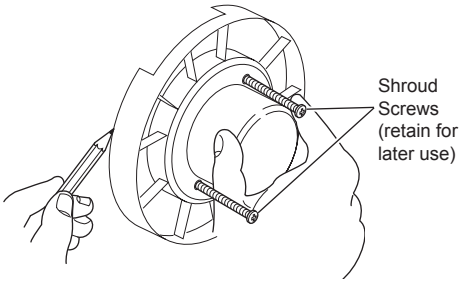


13. Turn on the hot and cold water supplies and check for leaks.
14. Before using the shower, refer to section: **'Commissioning'**.

Built-in Thermostatic Mixer

1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)

1. Determine the route for the hot and cold supply pipework and for the outlet pipework. When connecting to the BIV shower fittings it is recommended that the outlet be positioned above and to one side of the mixing valve. This is to prevent the flexible hose from obstructing the shower controls.
2. Remove the two shroud screws (retain for later use) and separate the mixing valve from the building-in shroud.
3. Determine the position of the mixing valve and draw around the building-in shroud.



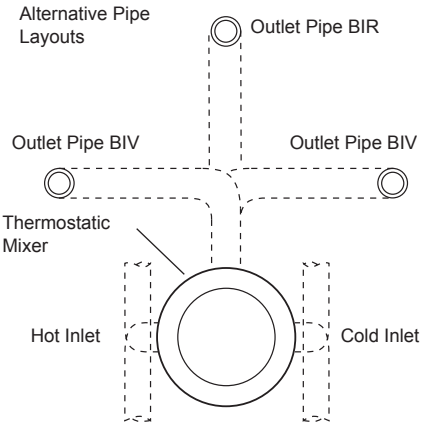
4. Mark the routes for the hot and cold supply pipework at 108 mm centres (**Hot - Left, Cold - Right**).

   Falling supplies: For falling supplies loosen the grubscrew on each elbow using the 2.5 mm hexagon key (supplied). Remove the elbows and install on opposite sides. Retighten the grubscrews.

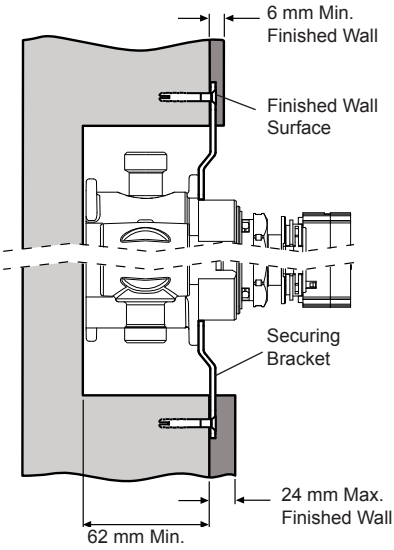
   Note! Do not overtighten.

   Note! Make sure that the 'O' seals are correctly fitted and that the filter plugs are positioned to the front (i.e. hexagonal key hole facing forward).
5. Mark the route for the outlet pipework.

   Note! The outlet elbow should be sited above the mixing valve and on the right or left, as site dictates.



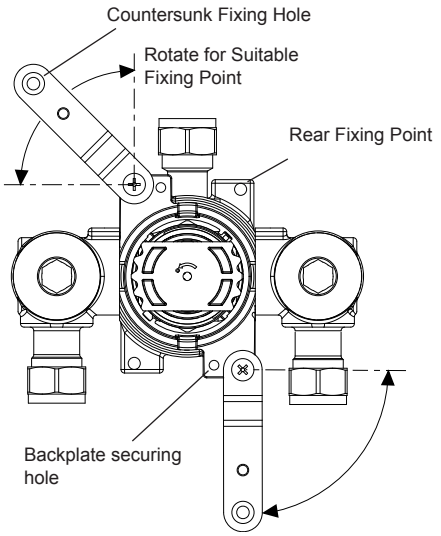
6. Remove the plasterboard and/or brick work to a minimum depth of 62 mm.



7. Secure the securing brackets to the mixing valve with the bracket screws.

Important! Make sure that the correct holes are used, otherwise the backplate cannot be fitted.

Note! The securing brackets can be rotated for suitable fixing points.



Note! Securing Brackets shown in preferred position to allow the Compression Nuts to be tightened.

8. Making sure that the mixing valve is level, mark the positions for the countersunk fixing holes on the wall.

9. For solid walls, drill two Ø6 mm holes for the wall plugs.

Caution! Do not drill into pipes or electrical cables buried in the wall.

10. Fit the wall plugs provided and secure the mixing valve to the wall with the screws supplied.

Note! For stud partition installations, alternative fixings may be required (not supplied).

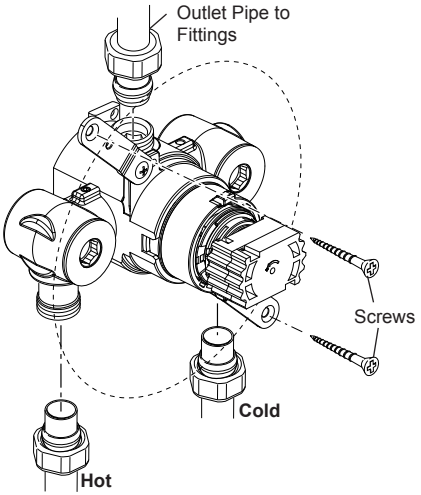
11. Connect the hot and cold supply pipes and tighten the compression nuts.

Caution! Make sure that the olives are fitted and all pipework is flushed through before connecting to the mixing valve.

12. Connect the outlet pipework and install the RAC assembly or BIR assembly, **before** continuing with the installation of the mixing valve.

RAC assembly, go to section: '**Installation, RAC Assembly'**.

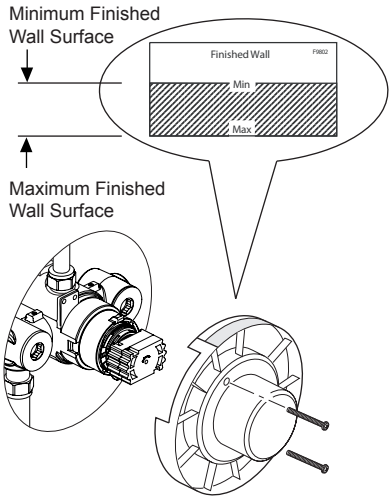
BIR assembly - refer to your shower fittings installation and user guide and follow instructions 13 to 19.



13. Secure the building-in shroud to the mixing valve using the two shroud screws removed earlier.

14. Using the building-in shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.



15. Remove the two shroud screws (retain for later use) and remove the building-in shroud.

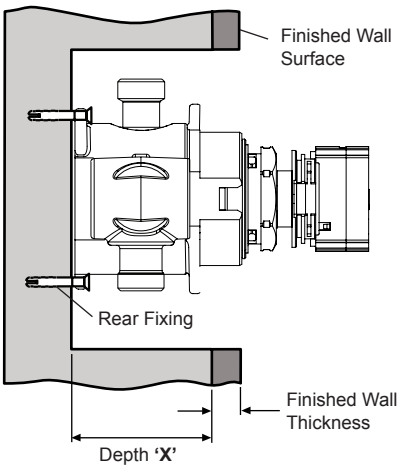
16. Fit the concealing plate and control assembly. Refer to section: **'Control Assembly'**.

2. Solid Wall or Stud Partition (Using Rear Fixing Points on the Thermostatic Mixer)

1. Refer to section: **'1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)'** and follow steps 1 to 4.
2. Cut away the plasterboard and/or brick work to the required depth.

   Important! This depth '**X'** will depend on the finished wall thickness e.g. tiles or facia board. Refer to the table for this measurement.

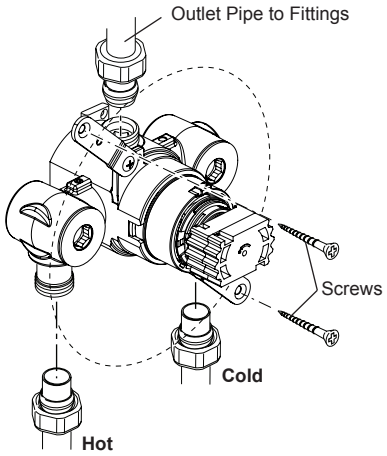
   For stud partitions depth **'X'** refers to the distance from the rear mounting e.g. timber noggin, to the front of the wall (before tiling).



Finished Wall Thickness (e.g. tile and adhesive)	Wall Cutout Depth 'X'
4 mm	81 - 63 mm
6 mm	79 - 61 mm
8 mm	77 - 59 mm
10 mm	75 - 57 mm
12 mm	73 - 55 mm
14 mm	71 - 55 mm
16 mm	69 - 55 mm
18 mm	67 - 55 mm
20 mm	65 - 55 mm
22 mm	63 - 55 mm
24 mm	61 - 55 mm

3. Make sure that the mixing valve is level, central in the hole and square to the finished wall surface. This is to make sure that the control assembly will fit correctly. Mark the positions of the fixing screw holes on the wall.
4. For solid walls, drill two Ø6 mm holes for the wall plugs.
5. Insert the wall plugs (supplied) and secure the mixing valve to the wall with the screws provided.

   Note! For stud partition installations alternative fixings may be required (not supplied) to fix the mixing valve to the rear face of the wall cavity or to a timber noggin.



6. Refer to section: **'1. Solid Wall or Stud Partition (Using Securing Brackets - Mounting off Front Face of Wall)'** and follow steps 11 and 12.

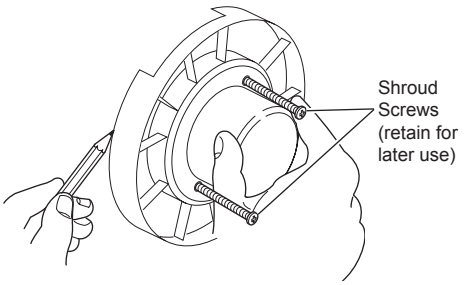
3. Laminated Panel (Using Securing Brackets - Mounting on Rear Face of Wall)

Note! For laminated panels the mixing valve must be positioned from the rear of the panel.

Panel thickness must be between 4 and 12 mm. (If a thicker panel is used, it will be necessary to recess the securing brackets into the rear of the panel.)

Important! Make sure that there is a minimum clearance of 64 mm behind the laminated panel to accommodate the mixing valve.

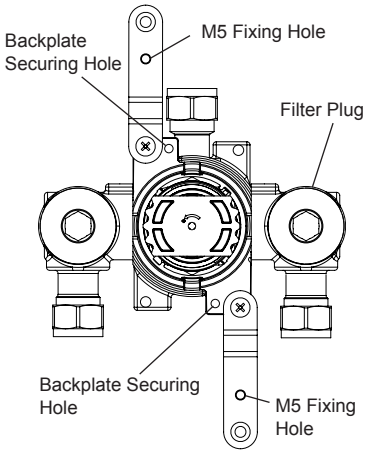
1. Remove the two shroud screws (retain for later use) and separate the mixing valve from the building-in shroud.



2. Mark the position of the mixing valve using the building-in shroud as a guide.
3. Carefully cut out the laminated panel.
4. Secure the securing brackets to the mixing valve with the bracket screws.

   Important! The securing brackets must be fixed vertically, as illustrated.

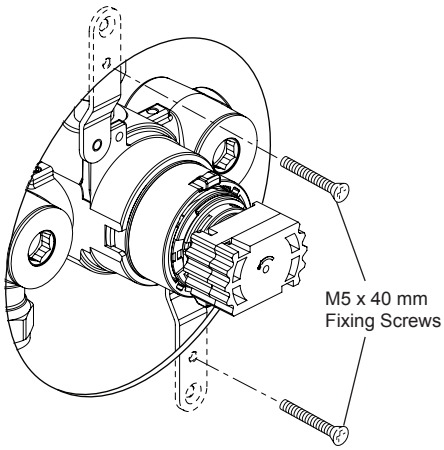
   Important! Make sure that the correct holes are used, otherwise the backplate cannot be fitted.



5. Position the mixing valve on the front of the panel, make sure that it is level and central in the hole, then mark the position of the M5 fixing holes.

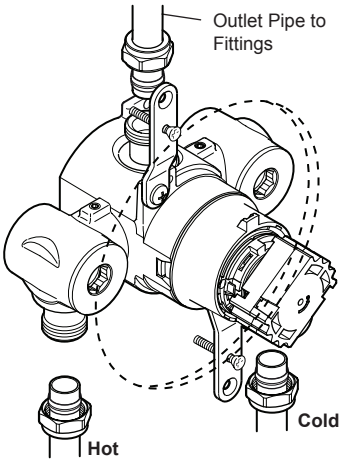
   Important! Make sure that the correct holes are used (refer to illustration).

   Note! Make sure that the filter plugs are positioned so that they can be removed for servicing.
6. Drill the two Ø5.5 mm holes for the fixing positions (countersink the holes at the front).
7. Secure the mixing valve on the rear of the panel with the M5 x 40 mm screws as shown.



8. Fit the hot and cold supply pipes (**hot - left, cold - right**) and tighten the compression nuts.

Caution! Make sure that the olives are fitted and all pipework is flushed through before connecting to the mixing valve.



9. Connect the outlet pipework and install the RAC assembly or BIR assembly, **before** continuing with the installation of the mixing valve.

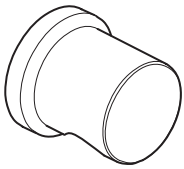
RAC assembly, go to section: '**Installation, RAC Assembly'**.

BIR assembly - refer to your shower fittings installation and user guide.

10. Fit the concealing plate and control assembly. Refer to section: **'Control Assembly'**.

RAC Assembly

There are two types of RAC assembly available depending on the shower fittings supplied with your product. Identify your RAC assembly and follow the appropriate installation instructions.



Mira Energise RAC

Mira Select RAC

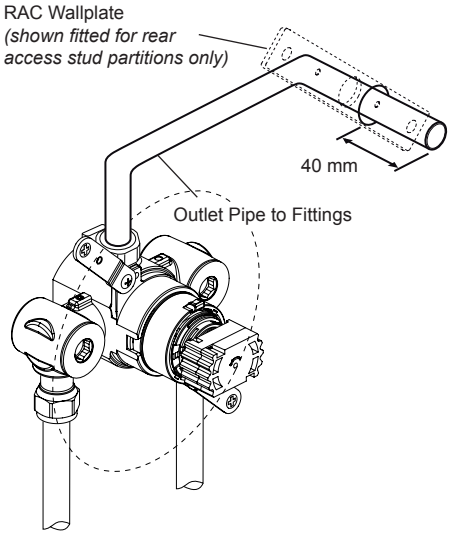
Mira Energise RAC:

1. Before the RAC assembly can be fitted you must have first installed your built-in shower control and have connected the inlet and outlet pipework.

   Important! Make sure that the outlet pipework protrudes through a Ø25 mm hole in the wall or stud partition by approximately 40 mm.

   Note! For stud partition installations where access to the rear of the partition is possible, fit the RAC wallplate over the outlet pipework on the inside of the partition.

   For stud partition installations where access to the rear of the wall is not possible, follow instructions for solid wall installations, making sure that suitable wall fixings (not supplied) are used to secure the wallplate to the outside of the stud partition.

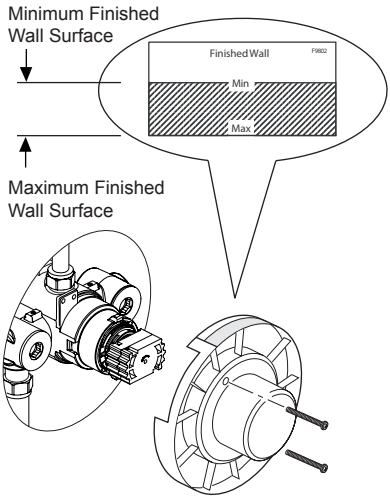


2. Temporarily cap off the outlet pipe, turn on the water supplies and check for leaks.
3. Determine the finished wall position (e.g. tile thickness). Turn off the water supply, carefully uncap the outlet pipe and cut to length, the outlet pipe must protrude through the **finished wall surface** by 21–23 mm.

   Note! Remove any burrs from the pipes before proceeding.
4. For solid wall installations or stud partition installations **without** rear access go to instruction 11.

   For stud partition installations with access to the rear of the partition continue with instruction 5.
5. Secure the building-in shroud to the mixing valve using the two building-in shroud screws removed earlier.
6. Using the building-in shroud as a guide, finish the wall, e.g. tiles.

   Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.

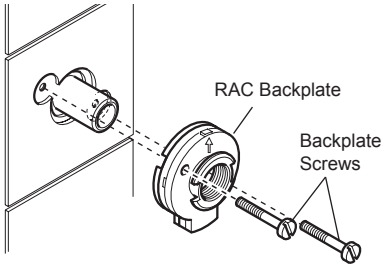


7. Remove the two building-in shroud screws (retain for later use) and remove the building-in shroud.
8. Place the RAC backplate over the outlet pipe with the arrow pointing up. The screw holes should be at 45° to the horizontal.

9. Mark the positions of the two RAC backplate fixing holes and drill two Ø5.5 mm holes.

Caution! Make sure that you do not drill into pipework in the wall.

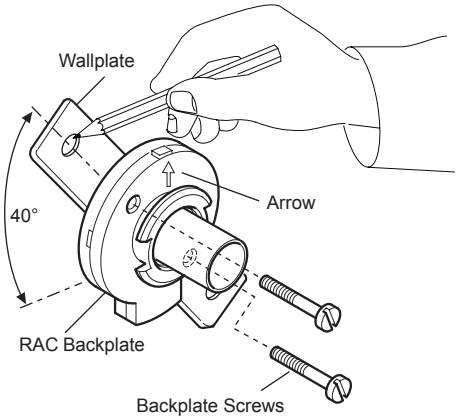
10. Hold the RAC wallplate in position on the rear of the partition, insert the two backplate screws and secure the RAC backplate to the wallplate. Make sure that the foam seal abuts the finished wall surface. Go to instruction 22.



11. Loosely attach the RAC backplate to the RAC wallplate, using the two backplate screws provided.

12. Place the RAC backplate/wallplate assembly over the outlet pipe with the arrow pointing vertically up. The screw holes should be at 40° to the horizontal.

13. Mark the positions of the two RAC wallplate fixing holes.



14. Remove the assembly from the wall and separate the backplate from the wallplate.

15. For solid walls drill two Ø6 mm holes for the wall plugs. For other types of wall structure alternative fixings may be required (not supplied). If necessary, make a recess 6 mm deep to accept the wallplate for flush fitting of the outlet to the wall surface.

Caution! Make sure that you do not drill into pipework in the wall.

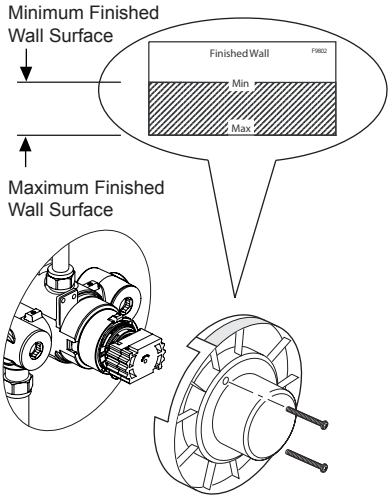
16. Fit the two wall plugs supplied and secure the wallplate to the wall with the two wallplate screws.

17. Make sure that there is clearance behind the wallplate and temporarily fit the two backplate screws into the wallplate. This will prevent the fixing holes from becoming blocked with plaster or grout.

18. Secure the building-in shroud to the mixing valve using the two shroud screws removed earlier.

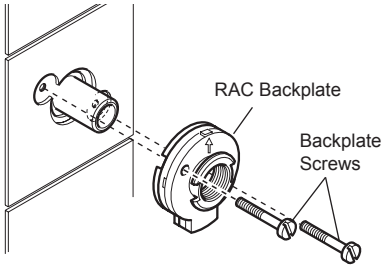
19. Using the building-in shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.



20. Remove the two backplate screws, the two building-in shroud screws (retain for later use) and the building-in shroud.

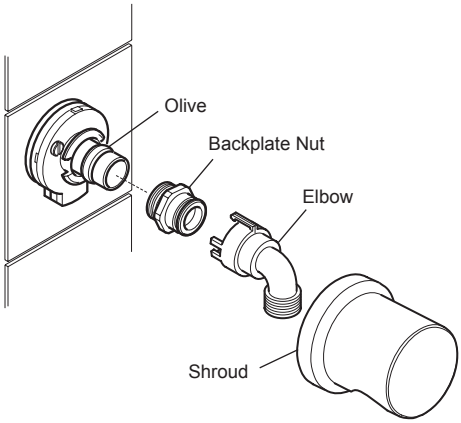
21. Place the backplate over the outlet pipe with the arrow pointing vertically up and tighten the two backplate screws. Make sure that the foam seal abuts the finished wall surface.



22. Check that the blue 'O' seal is fitted inside the backplate nut. Fit the olive and the backplate nut over the outlet pipe and tighten the nut.

23. Check that the second 'O' seal (black) is fitted to the outside of the backplate nut. Press the elbow onto the backplate, make sure that the clips on the elbow engage with the backplate.

24. Press the shroud over the elbow, make sure that it engages with the lugs on the backplate.



25. This completes the installation of the RAC assembly, fit the concealing plate and control assembly. Refer to section: **'Control Assembly'**.

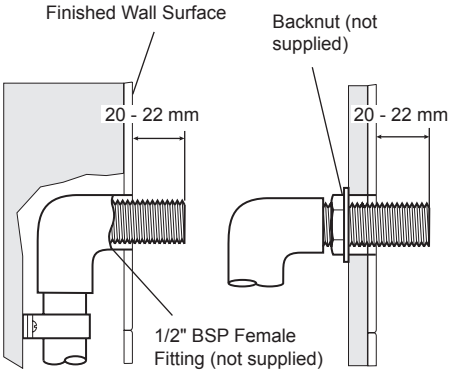
Mira Select RAC:

1. Before the RAC assembly can be fitted you must have first installed your built-in shower control and have connected the inlet and outlet pipework.

Important! Make sure that the outlet pipework is securely fixed and that you leave enough pipe to connect a 1/2" BSP female fitting (not supplied) to the RAC assembly.

2. Apply liquid sealant or PTFE tape (**do not** use paste) to the brass nipple and screw into the 1/2" BSP female fitting (not supplied).

Important! For stud partition installations screw a backnut (not supplied) on the rear of the brass nipple.



Solid or Dry Lined Walls | **Laminated Panel or Stud Partition Walls**

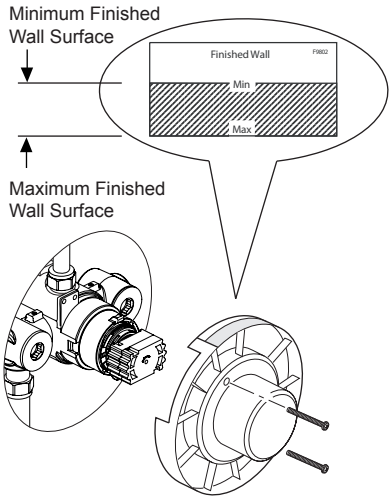
3. Temporarily cap off the brass nipple, turn on the water supplies and check for leaks.

4. Determine the finished wall position (e.g. tile thickness). Turn off the water supply, carefully uncap the brass nipple and, if necessary, cut to length, the brass nipple must protrude through the **finished wall surface** by 20–22 mm.

5. Secure the building-in shroud to the mixing valve using the two building-in shroud screws removed earlier.

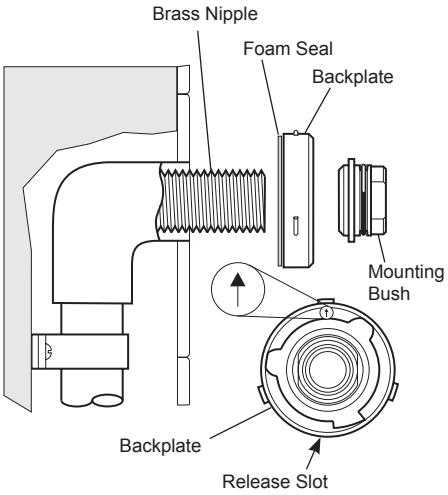
6. Using the building-in shroud as a guide, finish the wall, e.g. tiles.

Caution! Make sure that the finished wall is within the maximum and minimum limits and to an even depth (no greater than 2 mm variation) or the control components will not fit correctly.

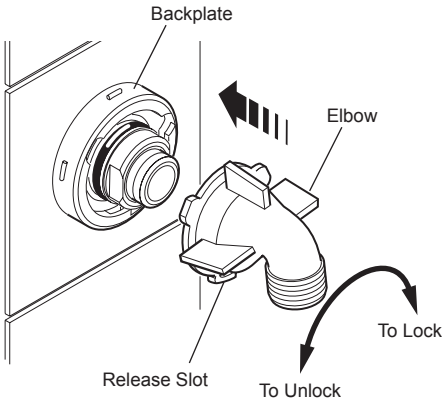


7. Remove the two building-in shroud screws (retain for later use) and remove the building-in shroud.

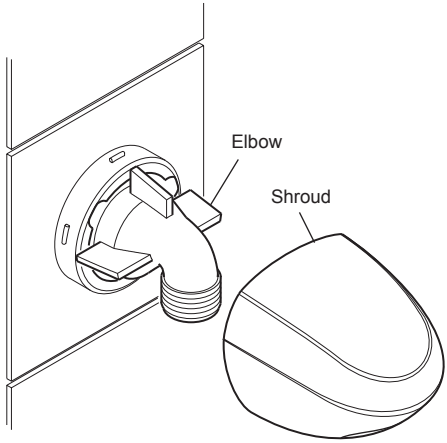
8. Apply liquid sealant or PTFE tape to the exposed end of the brass nipple. Screw the mounting bush on until the backplate is loosely clamped against the wall. Then rotate the backplate and position as shown to align the arrow and release slot. Tighten the mounting bush with a 24 mm A/F spanner.



9. Push the elbow fully into the backplate and rotate it clockwise, a 'click' will indicate when it is locked. To unlock, insert a small flat blade screwdriver into the release slot on the underside, then turn the elbow anticlockwise until it is released from the backplate.



10. Locate the shroud over the elbow, then carefully push until it 'clicks' into place securely.

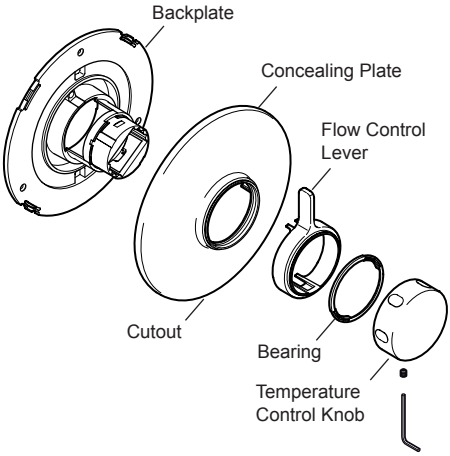


11. This completes the installation of the RAC assembly, fit the concealing plate and control assembly. Refer to section: **'Control Assembly'**.

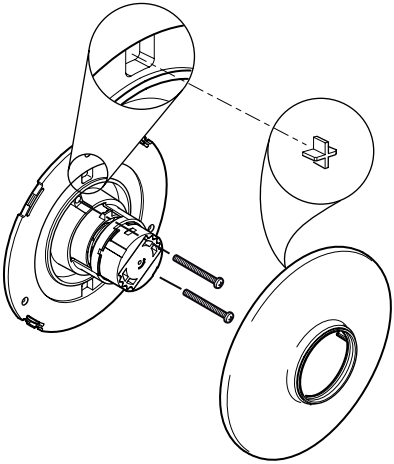
Control Assembly (Built-in Model)

1. Unscrew the grubscrew and pull off the temperature control knob, bearing and flow control lever.
2. Carefully separate the control assembly.

   Note! Use a screwdriver in the cutout to assist separation of the concealing plate from the backplate.

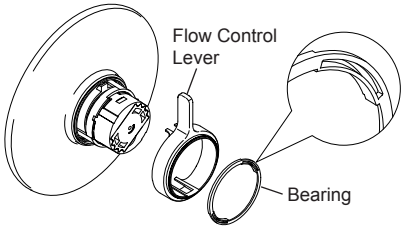


3. Attach the backplate using the two shroud screws removed previously. Tighten the screws until the foam seal is compressed against the finished wall. **Do not** overtighten.
4. With the cutout at the bottom, locate the concealing plate over the mixer, engage the crosses in the concealing plate with the square recesses in the backplate, and push firmly until the concealing plate clicks into position.



5. Locate the flow control lever over the control assembly and push firmly into place.
6. Fit the bearing onto the flow lever.

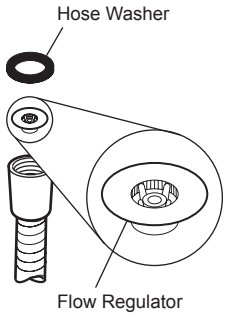
   Note! Align the bearing with the cutouts on the control assembly.



7. Fit the shower fittings, refer to your shower fittings installation and user guide.

   Note! For high pressure systems, a 12 L/Min flow regulator (supplied) can be fitted under the hose washer.

   Important! The fitting of this flow regulator will invalidate any TMV2 compliance due to the minimum flow rate requirements, **do not** fit the flow regulator in these applications.



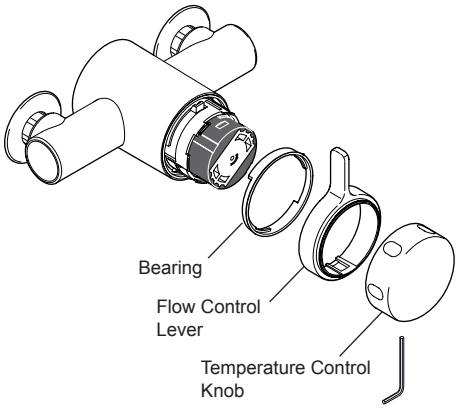
8. Turn on the hot and cold water supplies and check for leaks.
9. Before using the shower, refer to section: **'Commissioning'**.

Reversed Inlet Supplies

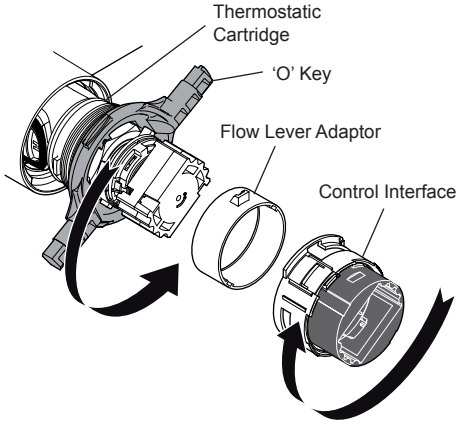
The Mira Select thermostatic mixer is supplied with inlet connections **Hot - Left**, **Cold - Right** and **Outlet - Bottom** (exposed models), **Outlet - Top** (built-in models) as standard. If the hot and cold water supply pipes have been reversed during installation, the thermostatic cartridge must be removed and rotated 180°.

Exposed Model:

1. Isolate the hot and cold water supplies and operate the flow control lever to relieve pressure and drain any residual water.
2. Loosen the temperature control knob grubscrew with a 2.5 mm hexagonal key and pull off the temperature control knob, flow control lever and bearing.



3. Rotate the white section of the control interface clockwise by 90° and pull off the control interface and flow control lever adaptor.
4. Locate the 'O' key (supplied) onto the cartridge nut and turn anticlockwise. Unscrew fully and pull the thermostatic cartridge from the mixing valve.



5. Rotate the thermostatic cartridge 180°.
6. Make sure that the two inlet seals are fitted and carefully push the thermostatic cartridge back into the mixing valve, aligning the lugs into the slots.

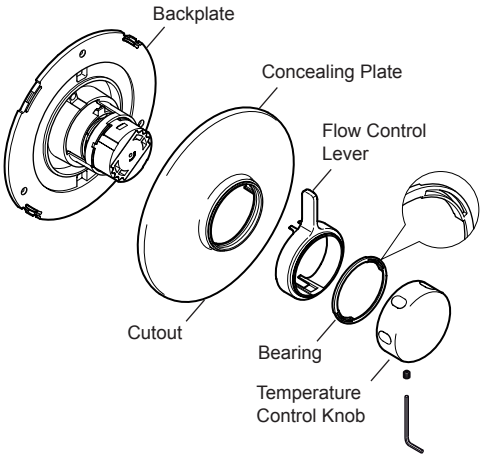
   Note! Check that the cartridge lug stamped 'H' is aligned with the hot inlet supply.

   Important! Take care when fitting the thermostatic cartridge. Damage to the cartridge inlet seals may result in dripping from the showerhead.
7. Tighten the nut by turning the 'O' key clockwise.
8. Refit the controls in reverse order. Make sure the shower operates correctly. Refer to section: **'Commissioning'**.

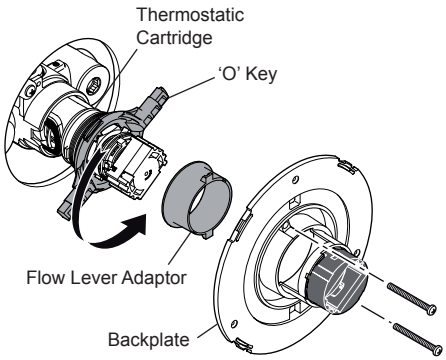
Built-in Model:

1. Isolate the hot and cold water supplies and operate the flow control lever to relieve pressure and drain any residual water.
2. Loosen the temperature control knob grubscrew with a 2.5 mm hexagonal key and pull off the temperature control knob, bearing and flow control lever.
3. Carefully unclip the concealing plate from the backplate.

   Note! Use a suitable screwdriver in the cutout to assist separation.



4. Unscrew the two backplate screws and remove the backplate.
5. Pull off the red flow lever adaptor.
6. Locate the 'O' Key (supplied) onto the cartridge nut and turn anticlockwise. Unscrew fully and pull the thermostatic cartridge from the mixing valve.



7. Rotate the thermostatic cartridge 180°.
8. Make sure that the two inlet seals are fitted and carefully push the thermostatic cartridge back into the mixing valve, aligning the lugs into the slots.

   Note! Check that the cartridge lug stamped 'H' is aligned with the hot inlet supply.

   Important! Take care when fitting the thermostatic cartridge. Damage to the cartridge inlet seals may result in dripping from the showerhead.
9. Tighten the nut by turning the 'O' key clockwise.
10. Refit the controls in reverse order.

    Note! When refitting the bearing, make sure that the cutouts are aligned with the control assembly.
11. Make sure the shower operates correctly. Refer to section: 'Commissioning'.

COMMISSIONING

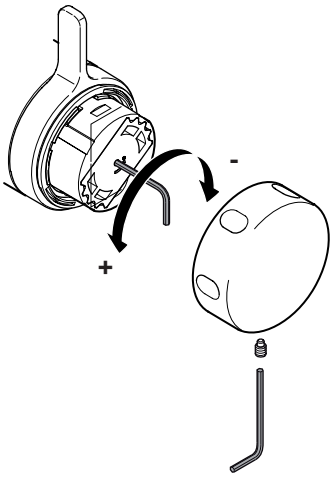
Maximum Temperature Setting

Before using the shower the maximum temperature must be checked to make sure that it is at a safe level. It has been preset to approximately 41°C at the factory but due to variations in site conditions the maximum temperature may need adjustment.

Note! Make sure that the hot water temperature is at least 55°C and that there is sufficient supply. For Type 2 installations the maximum blend temperature is determined by the application, refer to section: **'Type 2 Valves - Application'**.

1. Turn on the mixer to the maximum temperature and maximum flow (i.e. fully anticlockwise) and allow the temperature to stabilise.

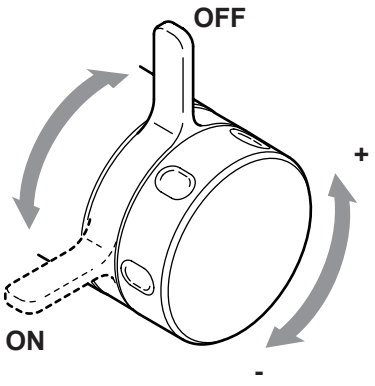
   If the temperature is too hot or too cold adjust as follows:
2. Loosen the temperature control knob grubscrew with the 2.5 mm hexagon key (supplied) and pull off the temperature control knob.
3. Insert the 2.5 mm hexagon key into the centre of the green hub and engage with the hidden temperature adjusting screw.
4. Turn the hexagon key until the required maximum showering temperature is obtained. Turn anticlockwise to increase or clockwise to decrease the temperature (¼ turn = approximately 1°C).



5. Once the desired maximum blend temperature has been achieved, turn off the shower.
6. Refit and secure the temperature control knob.
7. Check that the showering temperature is correct. If the correct temperature setting cannot be achieved, refer to section: **'Fault Diagnosis'**.

OPERATION

Turn the Flow Control Lever **anticlockwise** to the preset maximum flow



Turn the Temperature Control Knob **clockwise** to decrease the temperature and **anticlockwise** to the preset maximum temperature

USER MAINTENANCE

If you require a Mira trained service engineer or agent, refer to section: **'Customer Services'**.

Fault Diagnosis

Symptom:

- *Only hot or cold water from the mixer outlet.*
- *Outlet temperature too hot / too cold.*

Cause Rectification:

- *Inlets reversed (hot supply to cold supply). Refer to section: **'Reversed Inlet Supplies'**.*
- *No hot or cold water reaching mixer.*
- *Check the filters for any blockage.*
- *Installation conditions outside operating parameters, refer to sections: **'Specifications'** and **'Commissioning'**.*

Symptom:

- *Fluctuating or reduced flow rate.*

Cause Rectification:

- *Check the showerhead, hose and filters for any blockage.*
- *Make sure that the maintained inlet pressures are nominally balanced and sufficient, refer to section: **'Specifications'**.*
- *Make sure that the inlet temperature differentials are sufficient, refer to section: **'Specifications'**.*
- *Air lock or partial blockage in the pipework.*
- *Flow regulator fitted incorrectly.*

Symptom:

- *Water leaking from showerhead.*

Cause Rectification:

- *Normal for a short period after shut off.*
- *Check that the pressures are not in excess of the specifications for the product.*
- *Renew the thermostatic cartridge.*

Lubricants

Silicone based lubricants must only be used on the rubber seals.

Caution! Oil based or other lubricant types may cause rapid deterioration of seals.

Cleaning

The chrome plated parts should be cleaned using a mild washing up detergent or soap solution, rinsed and then wiped dry with a soft cloth.

Warning! Many household cleaners contain abrasive and chemical substances, and should not be used for cleaning plated or plastic fittings.

Do not use descalents on this product.

In-service Tests

The principal means for determining the continuing satisfactory performance of the mixing valve is the in-service test.

Follow the procedure detailed in the flow diagram "In-service Test Procedure".

Frequency of In-service Tests - Commercial (non-domestic installations)

Check for correct blend setting every 6 months.

Follow the procedure detailed in the flow diagram "In-service Test Procedure", every 12 months.

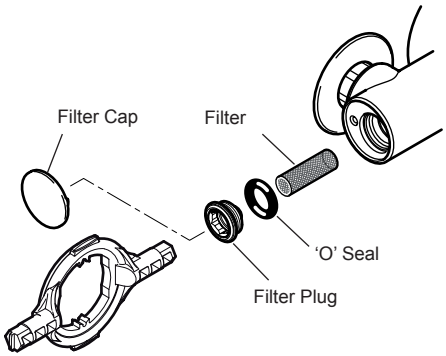
Inlet Filters

The inlet filters should be checked and cleaned as necessary every 12 months.

Note! The inlet filters must not be removed except for cleaning. If the mixing valve is operated without the inlet filters fitted, the warranty on the product will be void.

Exposed Models

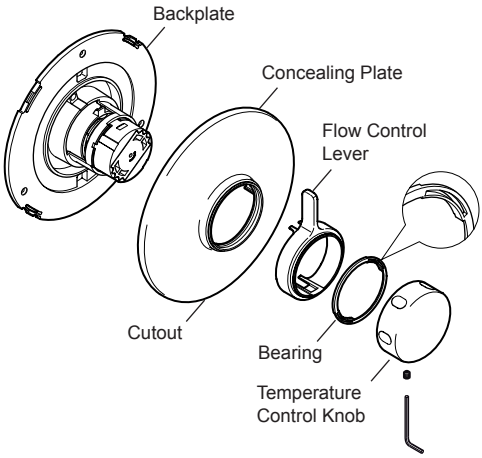
1. Isolate the hot and cold water supplies and operate the flow control lever to drain any residual water.
2. Carefully remove the filter caps and unscrew the filter plugs with the 'O key' (supplied) or a 12 mm hexagonal wrench. Remove the filters.



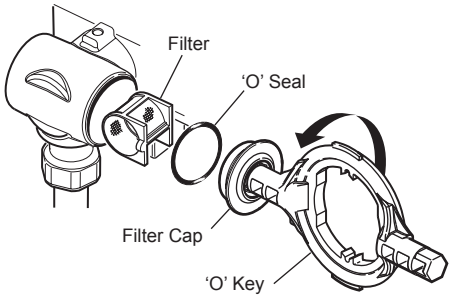
3. Clean the filters under a jet of water to remove any lodged particles.
4. Refit the filters and tighten the filter plugs.
   Note! Make sure that the 'O' seal is fitted correctly and undamaged.
5. Turn on the hot and cold water supplies and check for leaks.
6. Refit the filter caps.

Built-in Models

1. Isolate the hot and cold water supplies and operate the flow control lever to drain any residual water.
2. Loosen the grubscrew to remove the temperature control knob. Then remove the flow control lever.
3. Carefully unclip the concealing plate from the backplate.
   Note! Use a suitable screwdriver in the cutout to assist separation.



4. Unscrew the two shroud screws and remove the backplate from the mixer.
5. Unscrew the filter plugs with the 'O key' (supplied) or a 12 mm hexagonal wrench and remove the filters.
   Note! Use pliers to remove the filters carefully.



6. Clean both filters under a jet of water to remove any lodged particles.
7. Refit the filters and tighten the filter caps.
   Note! Make sure that the seal is fitted correctly and undamaged.
8. Turn on the hot and cold water supplies and check for leaks.
9. Refit the controls in reverse order.
   Note! When refitting the bearing, make sure that the cutouts are aligned with the control assembly.

TYPE 2 VALVES

Application

The approved designations for Type 2 Valves are as follows:

Models	Designation
Mira Select	LP-S, HP-S

The permitted application details are:

Designation	Operating Pressure Range	Application	Mixed Water Temp†
LP-S	Low Pressure	Shower	41°C Max
HP-S	High Pressure	Shower	41°C Max

† Mixed water temperature at discharge point.

Important! For TMV2 installations the mixed water temperature at the discharge point should never exceed 46°C.

In order to achieve the safe water temperatures expected of a Type 2 Valve it is essential that the valve is used only for the applications covered by its approved designations, with the appropriate water supply pressures and temperatures, and it is commissioned, maintained and serviced in accordance with the recommendations contained in this guide (refer to the section **'Maintenance, In-Service Tests'** for in service test frequency that must be used as a minimum guide in Type 2 installations).

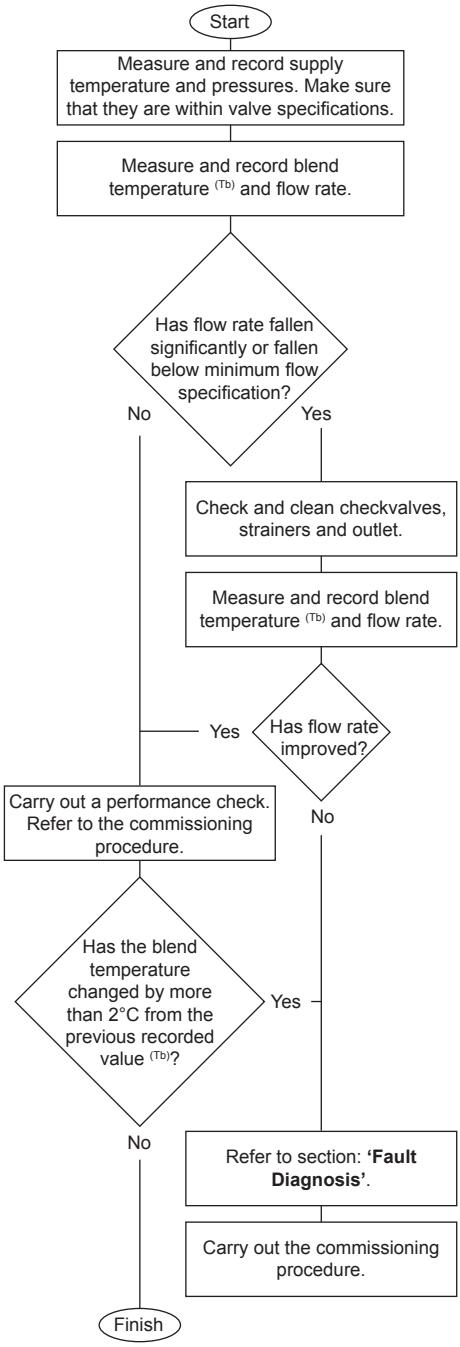
Supply Conditions

For applications where a Type 2 Valve is required, the supply conditions must comply with the values in the table below. Note that both hot and cold supply pressures must lie within the same pressure range.

Operating Pressure Range	High Pressure	Low Pressure
Maximum Static Pressure (bar)	10	10
Maintained Pressure, Hot and Cold (bar)	1 to 5	0.2 to 1
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	≤25	≤25

Valves operating outside these conditions cannot be guaranteed to operate as Type 2 Valves.

Flow Diagram, In-service Test Program

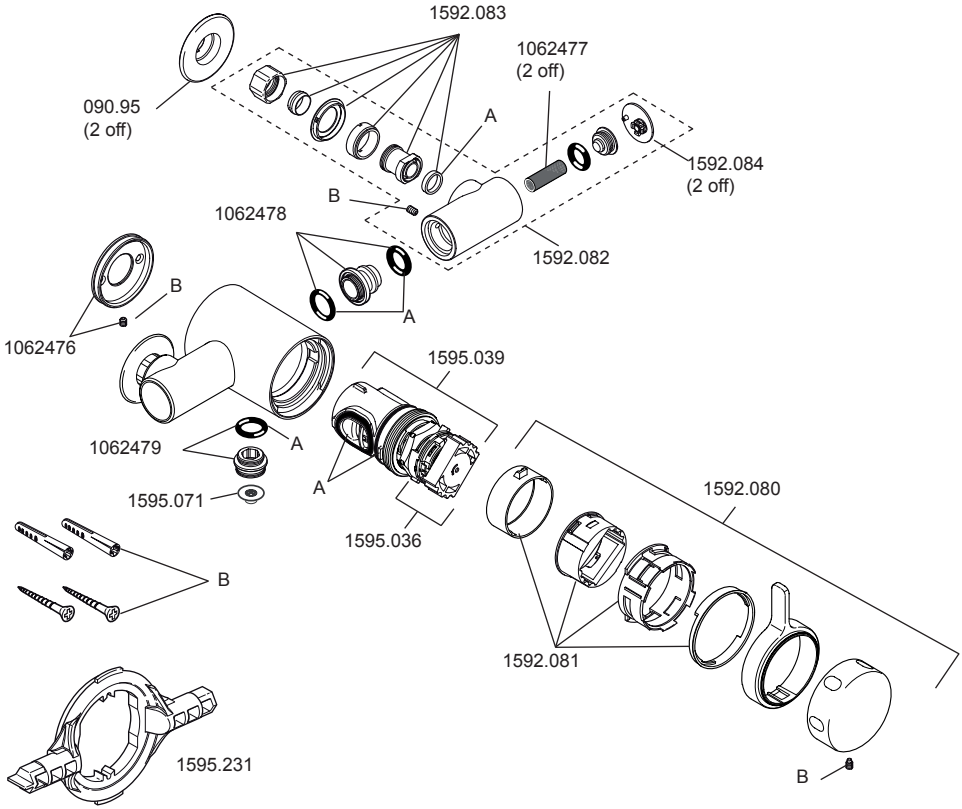

Start
Measure and record supply temperature and pressures. Make sure that they are within valve specifications.
Measure and record blend temperature (Tb) and flow rate.
Has flow rate fallen significantly or fallen below minimum flow specification?
No
Yes
Check and clean checkvalves, strainers and outlet.
Measure and record blend temperature (Tb) and flow rate.
Has flow rate improved?
Yes
No
Carry out a performance check. Refer to the commissioning procedure.
Has the blend temperature changed by more than 2°C from the previous recorded value (Tb)?
Yes
No
Refer to section: 'Fault Diagnosis'.
Carry out the commissioning procedure.
Finish

Note! All measurements and results should be recorded in the Log Book.

SPARE PARTS

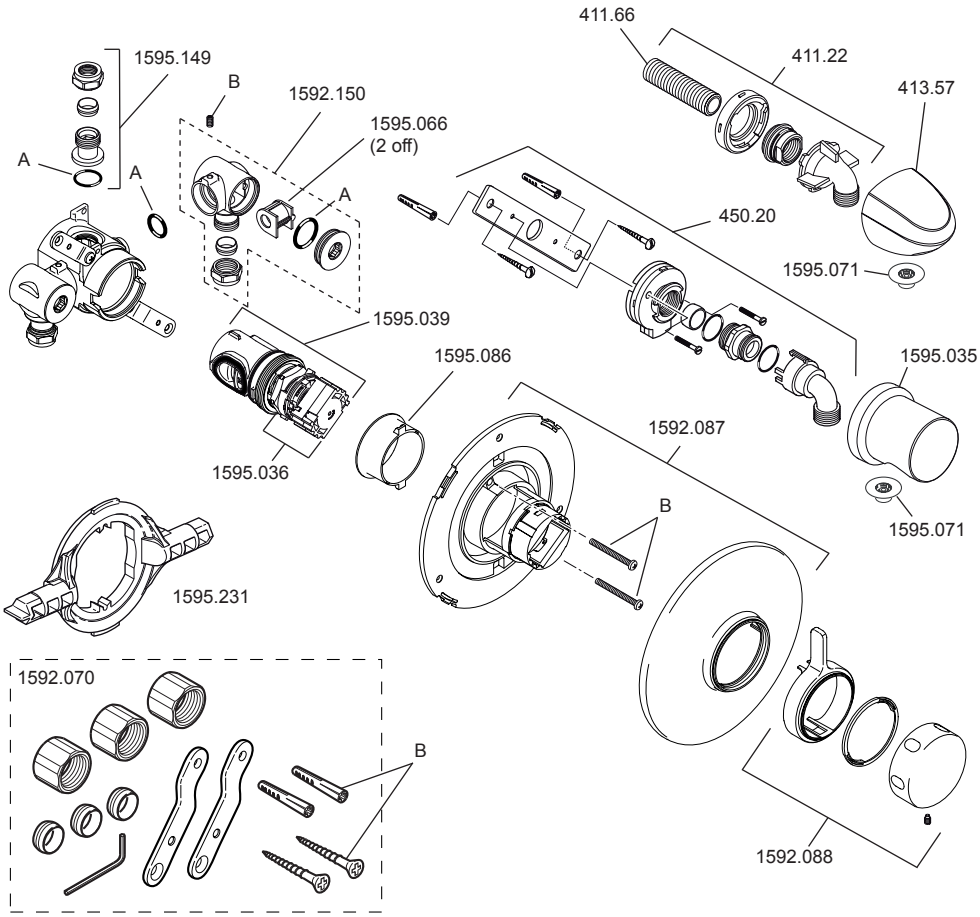
Exposed Thermostatic Mixer

090.95	Pipe concealing plate (x 2)
1062476	Backplate
1062477	Filter Pack (x 2)
1062478	Elbow Connector Pack
1062479	Outlet Connector Pack
1592.080	Handle Pack
1592.081	Handle Adaptor Pack
1592.082	Elbow Assembly
1592.083	Adjustable Inlet
1592.084	Filter Cap (x 2)
1592.085	Seal Pack (identified 'A')
1595.036	Temperature Hub Assembly
1595.039	Cartridge Assembly
1595.067	Screw Pack (identified 'B')
1595.071	12 L/Min Flow Regulator
1595.231	'O' Key



Built-in Thermostatic Mixer

411.22	Select RAC Mounting Pack
411.66	Brass Nipple
413.57	Select RAC Shroud (chrome)
450.20	Energise RAC Mounting Pack
1592.086	Flow Lever Adaptor Pack
1592.087	Concealing Plate Assembly
1592.088	Handle Pack
1592.231	'O' Key
1595.035	Energise RAC Shroud (chrome)
1595.036	Temperature Hub Assembly
1595.039	Cartridge Assembly
1595.046	Seal Pack (identified 'A')
1595.066	Filter Pack (x 2)
1595.067	Screw Pack (identified 'B')
1595.070	Component Pack
1595.071	12 L/Min Flow Regulator
1595.149	Outlet Connector Pack
1595.150	Elbow Assembly



NOTES

NOTES

CUSTOMER SERVICE

Guarantee of Quality

Mira Showers guarantee your product against any defect in materials or workmanship for the period shown in the Guarantee Registration Document included with your shower.

Alternatively, to confirm the applicable guarantee period please contact Customer Services.

To validate the guarantee, please return your completed registration card.

Within the guarantee period we will resolve defects, free of charge, by repairing or replacing parts or modules as we may choose.

To be free of charge, service work must only be undertaken by Mira Showers or our approved agents.

Service under this guarantee does not affect the expiry date.

The guarantee on any exchanged parts or product ends when the normal product guarantee period expires.

Not covered by this guarantee:

Damage or defects arising from incorrect installation, improper use or lack of maintenance, including build-up of limescale.

Damage or defects if the product is taken apart, repaired or modified by any persons not authorised by Mira Showers or our approved agents.

This guarantee is in addition to your statutory and other legal rights.

What to do if something goes wrong

If when you first use your shower, it doesn't function correctly, first contact your installer to check that installation and commissioning are satisfactory and in accordance with the instructions in this manual. We are on hand to offer you or your installer any advice you may need.

Should this not resolve the difficulty, simply contact our Customer Services Team who will give every assistance and, if necessary, arrange for our service engineer to visit. If the performance of your shower declines, consult this manual to see whether simple home maintenance is required. Please call our Customer Services Team to talk the difficulty through, request a service under guarantee if applicable, or take advantage of our comprehensive After-Sales service.

As part of our quality and training programme calls may be recorded or monitored.

Our Customer Services Team is comprehensively trained to provide every assistance you may need: help and advice, spare parts or a service visit.

Spare Parts

We maintain an extensive stock of spares and aim to provide support throughout the product's expected life.

Spares can be purchased from approved stockists or merchants (locations on request) or direct from Customer Services.

Spares direct will normally be despatched within two working days. Payment can be made by Visa or MasterCard at the time of ordering. Should payment by cheque be preferred, a pro-forma invoice will be sent.

All spares are guaranteed for 12 months from date of purchase. Spares that have been supplied directly from us can be returned within one month from date of purchase, providing that they are in good order and the packaging is unopened.

Note! Returned spares will be subject to a 15% restocking charge and authorisation must be obtained before return. Please contact our Customer Services Team.

Note! In the interests of safety, spares requiring exposure to mains voltages can only be sent to competent persons.

Service

Our Service Force is available to provide a quality service at a reasonable cost. You will have the assurance of a Mira trained engineer/agent, genuine Mira spare parts and a 12 month guarantee on the repair.

Payment should be made directly to the engineer/agent using Visa, MasterCard or a cheque supported by a banker's card.

To Contact Us

England, Scotland, Wales and Northern Ireland
Mira Showers Customer Services

Telephone: 0870 241 0888, Mon to Fri 8:00 am - 5:30 pm
Sat 8:30 am - 3:30 pm
E-mail: technical@mirashowers.com
Fax: 01242 282595
By Post: Cromwell Road, Cheltenham,
Gloucestershire, GL52 5EP

Eire
Modern Plant Ltd (Dublin)

Telephone: 01 459 1344, Mon to Fri 9:00 am - 5:00 pm
E-mail: sales@modernplant.ie
Fax: Dublin 01 459 2329
Post: Otter House, Naas Road,
Clondalkin, Dublin 22

Modern Plant (Cork)

Telephone: 021 496 8755, Mon to Fri 9:00 am - 5:00 pm
E-mail: cork@modernplant.ie
Fax: 021 496 8607
Post: Tramore Road, Cork

5 013181 039399

Mira is a registered trade mark of Kohler Mira Limited.
The company reserves the right to alter product specifications without notice.
www.mirashowers.com

FM 14648

© Kohler Mira Limited, February 2008